

AMENDMENTS TO THE CLAIMS

Cancel claims 1-4, 9-13, 15-19 and 21-24 without prejudice

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-4. (canceled)

5. (currently amended) An apparatus comprising:

an integrated circuit (IC) die;

a stack of at least three metal ~~layer~~ layers on a back surface of the IC die;

a heat spreader conductively coupled to the stack of metal ~~layer~~ layers; and

a bias signal source coupled to the heat spreader to supply a bias signal to the IC die via the stack of metal ~~layer~~ layers.

6. (original) The apparatus of claim 5, further comprising:

a wire coupled to the heat spreader to provide the bias signal from the signal source.

7. (original) The apparatus of claim 5, further comprising:

a package substrate on which the IC die is mounted, the package substrate including a conductive path to provide the bias signal to the heat spreader.

8. (original) The apparatus of claim 5, wherein the IC die includes a microprocessor.

9-13. (canceled)

14. (currently amended) ~~The article of manufacture of claim 9, further comprising:~~

An article of manufacture, comprising:

a substrate;

an integrated circuit (IC) die mounted on the substrate;

a metal layer on a back surface of the IC die;

a heat spreader electrically coupled to the metal layer;

an electrically conductive connection to couple the heat spreader to a device external to the IC die; and

a layer of solder between the metal layer and the heat spreader.

15-19. (canceled)

20. (currently amended) ~~The article of manufacture of claim 15, further comprising:~~

An article of manufacture, comprising:

a substrate;

an integrated circuit (IC) die mounted on the substrate;

a metal layer on a back surface of the IC die;

a heat spreader electrically coupled to the metal layer;

means for providing a signal path between the heat spreader and a device external to the IC die; and

a layer of solder between the metal layer and the heat spreader.

21-24. (canceled)

25. (currently amended) ~~The system of claim 21, wherein the package also includes:~~

A system comprising:

a die comprising a microprocessor; and

a chipset in communication with the microprocessor;

wherein:

the die has a metal layer on a back surface of the die; and

the die is mounted in a package that includes:

a substrate on which the die is mounted;

a heat spreader electrically coupled to the metal layer;

an electrically conductive connection to couple the heat spreader to a device external to the die; and

a layer of solder between the metal layer and the heat spreader.

26. (new) The article of manufacture of claim 14, wherein the electrically conductive connection passes through the substrate.

27. (new) The article of manufacture of claim 14, wherein the electrically conductive connection includes a wire that is not part of the substrate.

28. (new) The article of manufacture of claim 14, wherein the IC die includes a microprocessor.

29. (new) The article of manufacture of claim 14, wherein the IC die is mounted in flip-chip fashion on the substrate.

30. (new) The article of manufacture of claim 20, wherein the means for providing a signal path includes a wire coupled to the heat spreader.

31. (new) The article of manufacture of claim 20, wherein the means for providing a signal path includes a conductive path that passes through the substrate.

32. (new) The article of manufacture of claim 20, wherein the IC die includes a microprocessor.

33. (new) The article of manufacture of claim 20, wherein the IC die is mounted in flip-chip fashion on the substrate.

34. (new) The system of claim 25, wherein the electrically conductive connection passes through the substrate.

35. (new) The system of claim 25, wherein the electrically conductive connection includes a wire that is not part of the substrate.

36. (new) The system of claim 25, wherein the die is mounted in flip-chip fashion on the substrate.